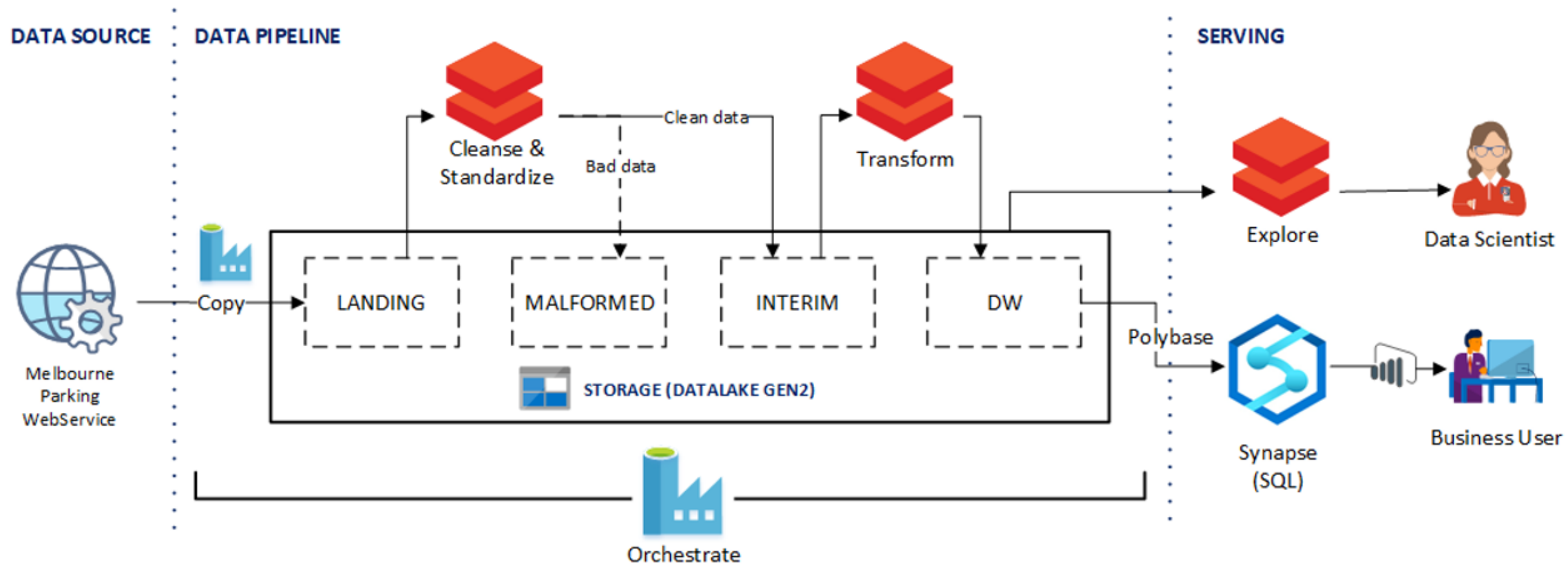
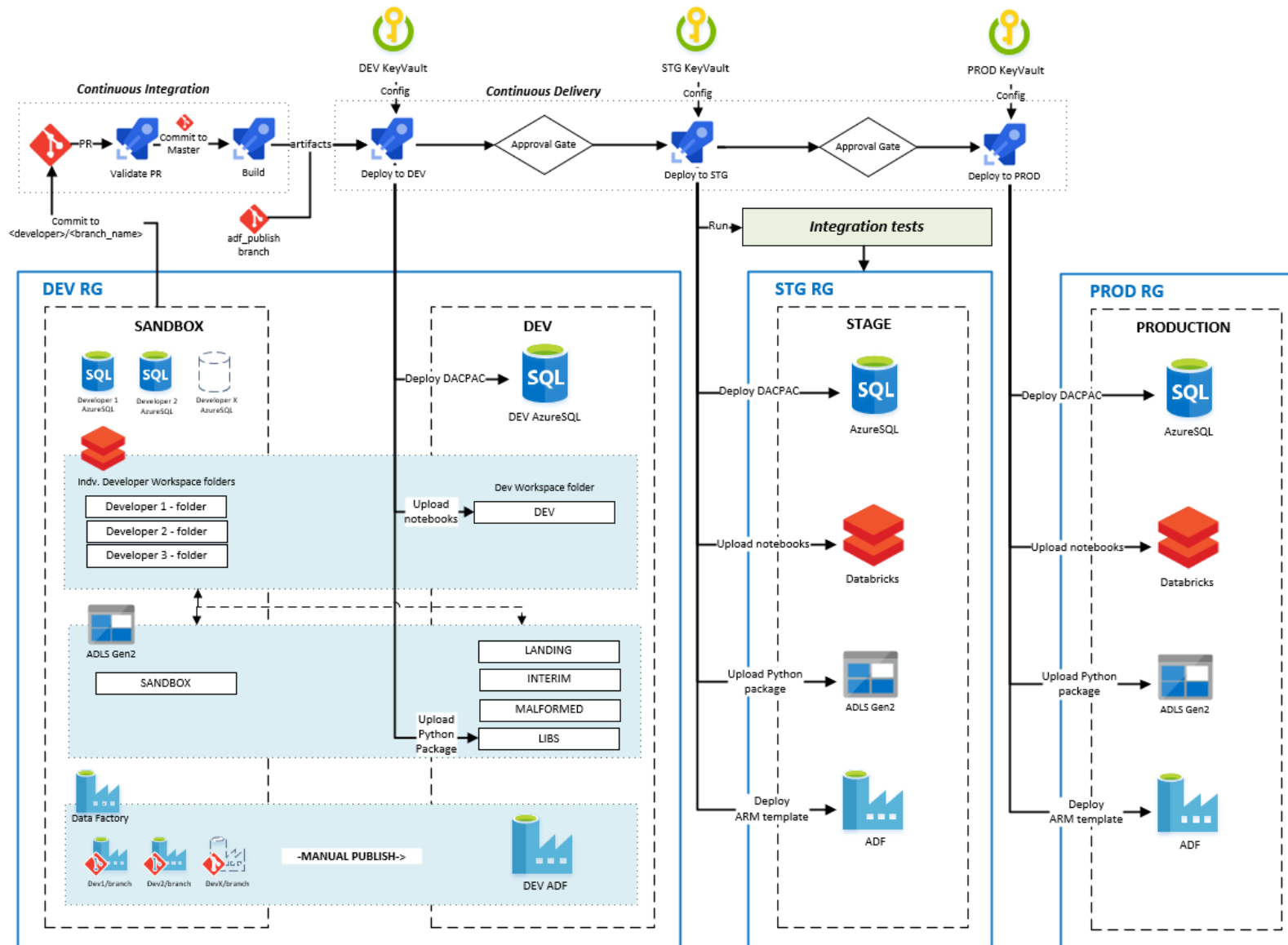


ADF & Synapse Analytics CI/CD summary

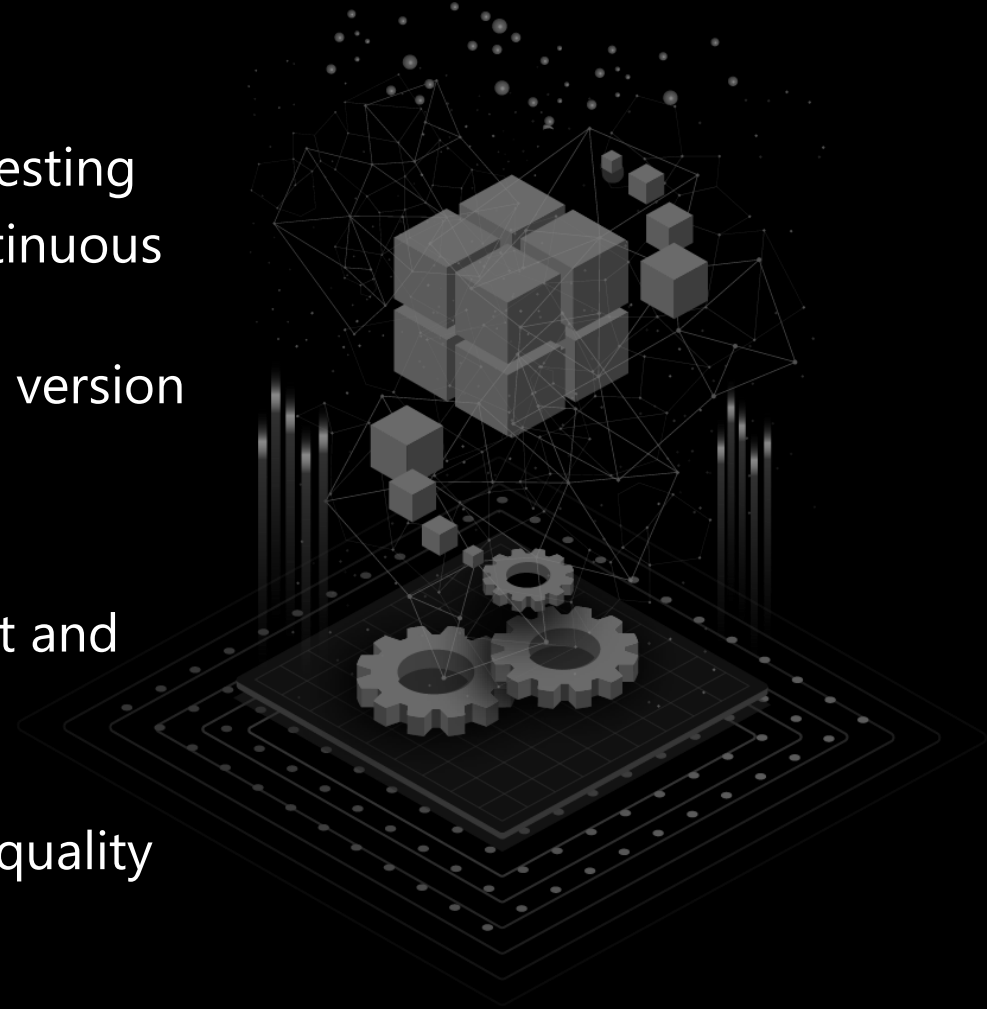






CI/CD

- Continuous Integration (CI)
 - The process of automating code build and testing
 - Automatically generate deliverables for continuous delivery
 - Ideally, every time a change is committed to version control, it should be executed
- Continuous Delivery (CD)
 - The process of deploying deliverables to test and staging and production environments
 - Build → test → configuration → deployment
 - Deploy and test multiple stages to improve quality



Components

■ ADF/Synapse workspace

- Where to develop
- Follow the stages of general Development, Staging, and Production With a development, test, and production workspace

■ Git

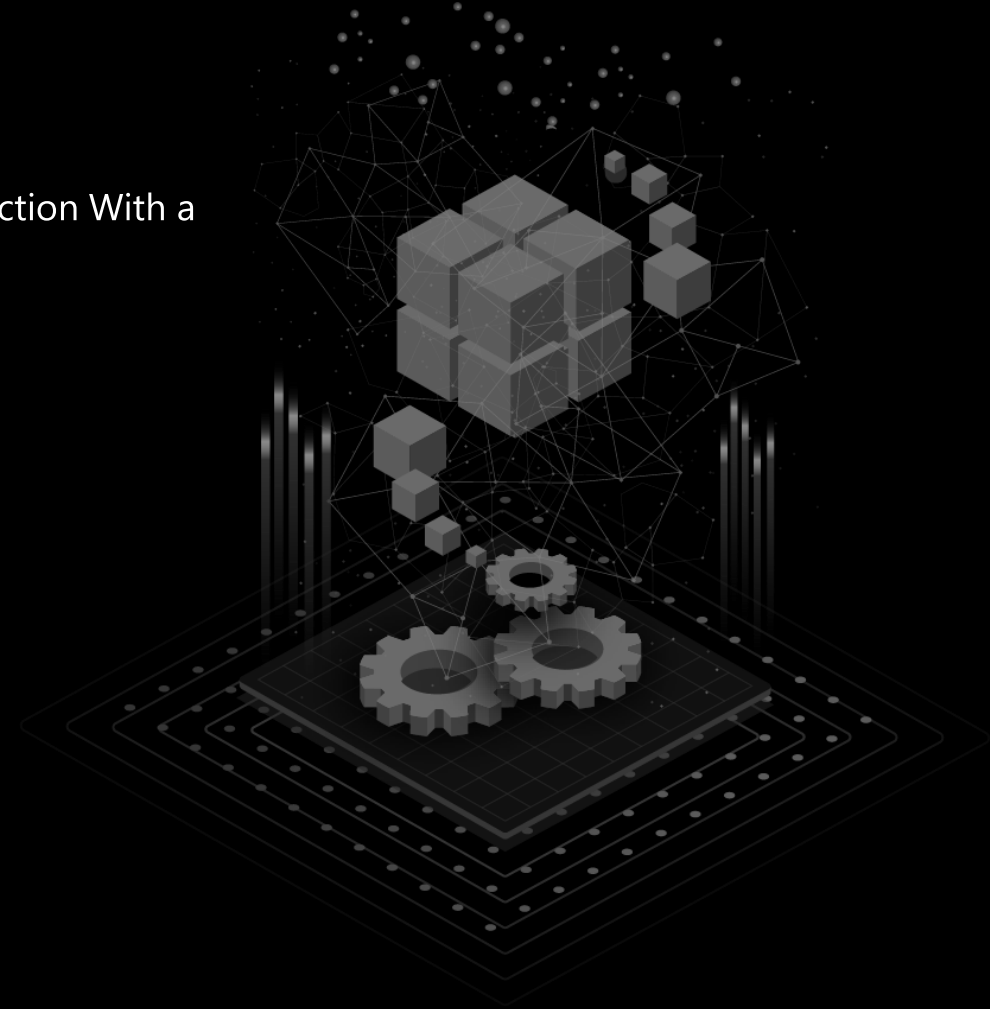
- Distributed version control tool

■ CI/CD Assistive tools

- Azure DevOps or GitHub
- Automate build, test, configure, and deploy

■ Files

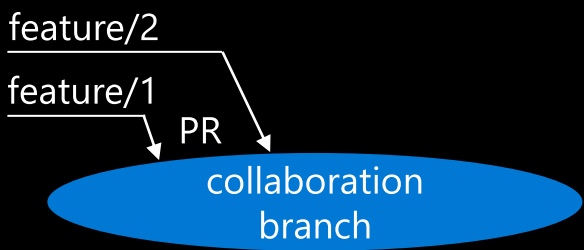
- ARM Templates (& Bicep) – (Infrastructure as Code)
- Parameters
- Artifacts (deliverables)



CI/CD Flow (example)

file

Git



Synapse
WS



CI/CD
support
tool

CI/CD Flow (example)

file

Git

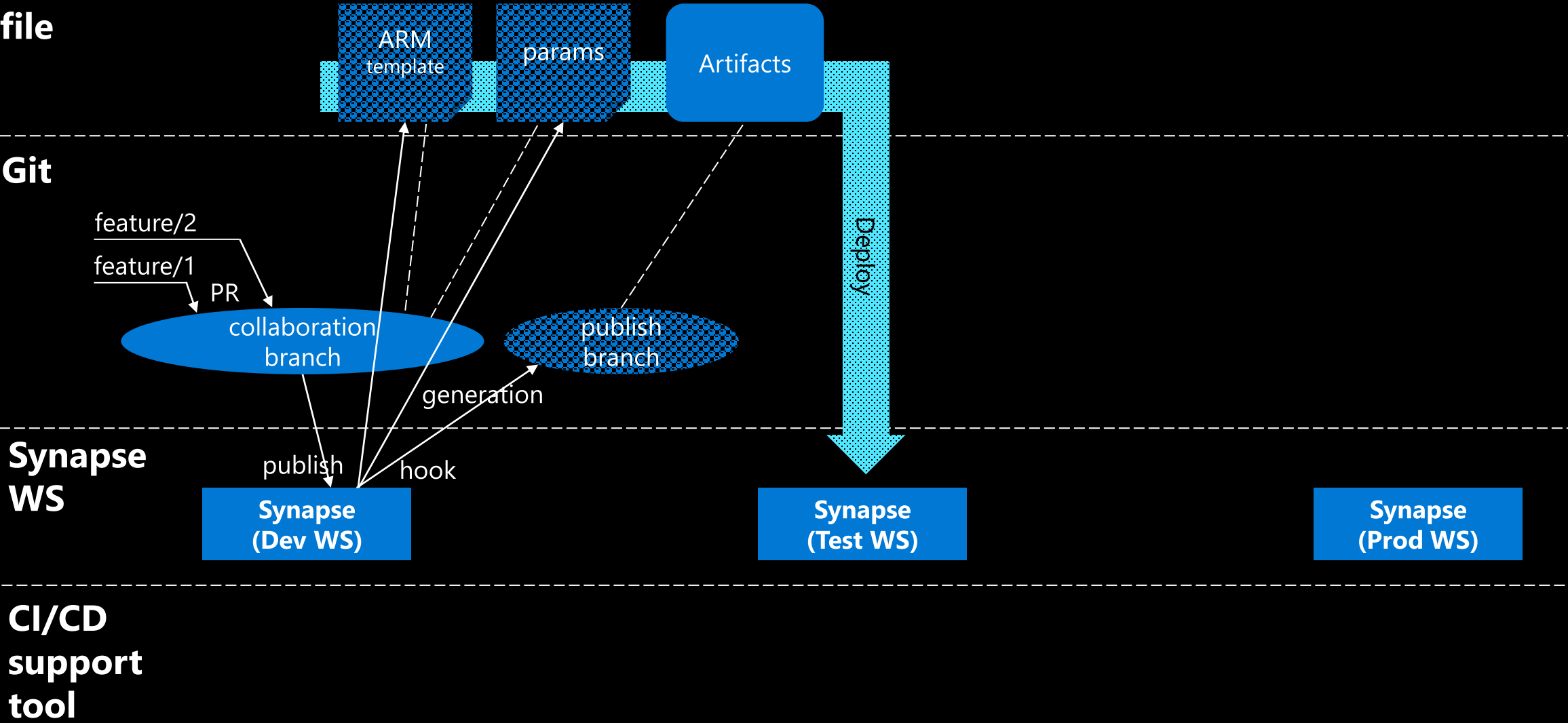


Synapse
WS

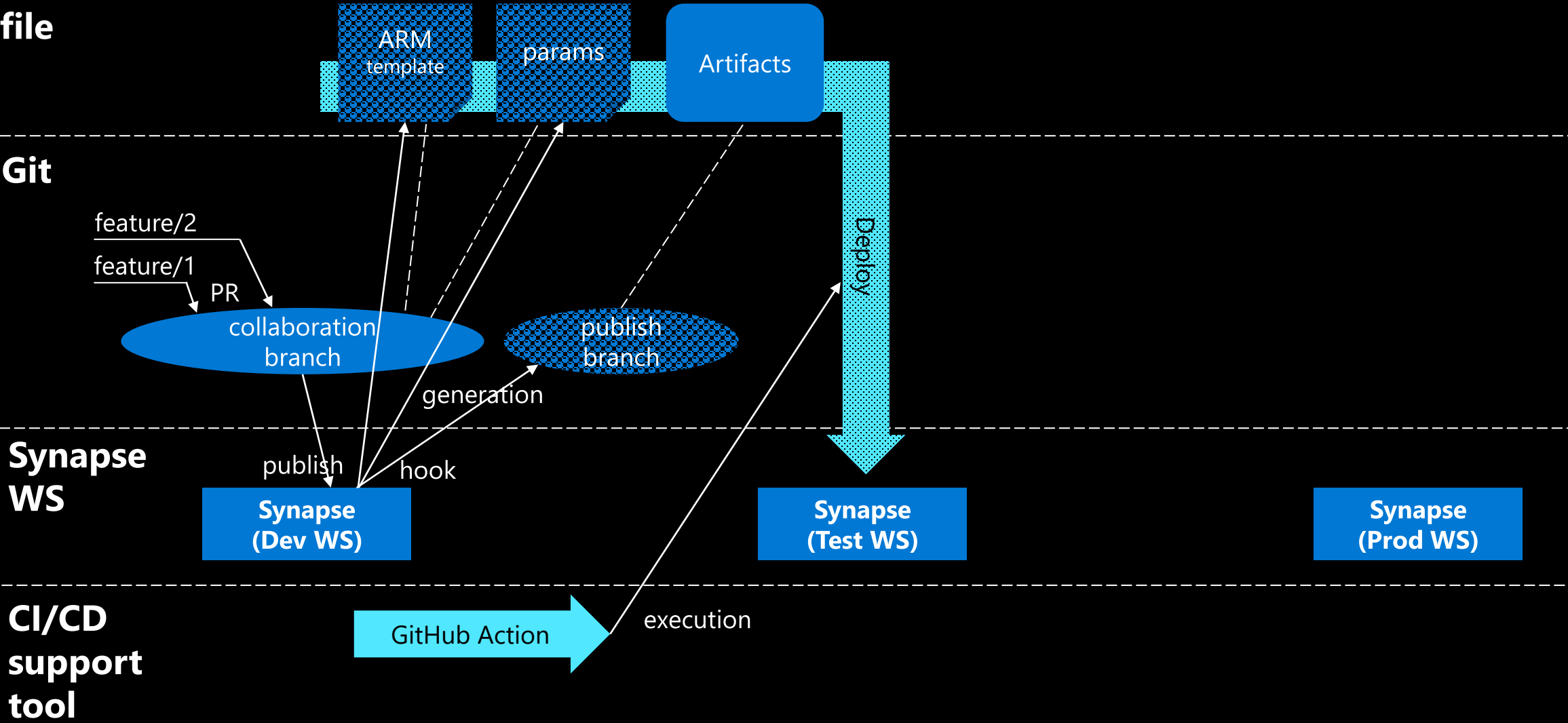


CI/CD
support
tool

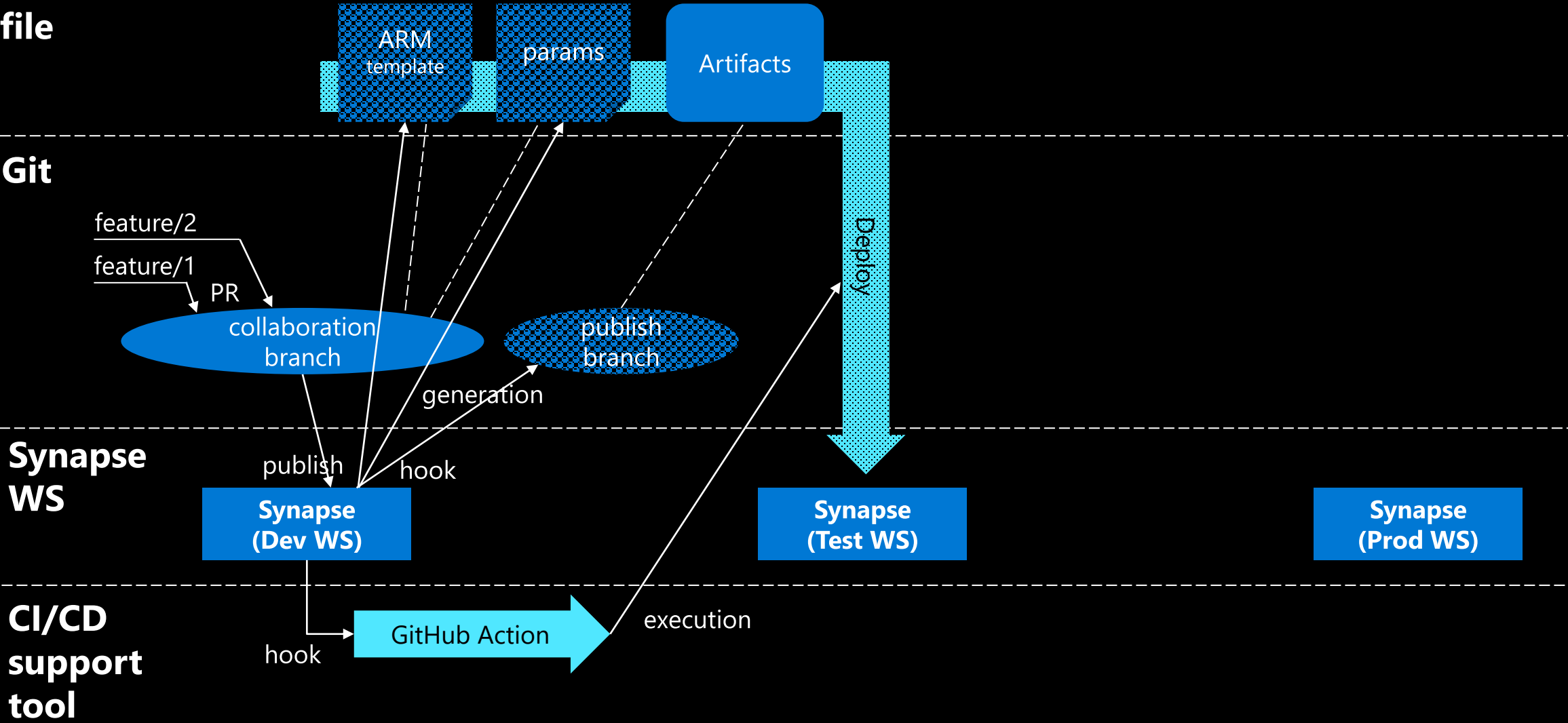
CI/CD Flow (example)



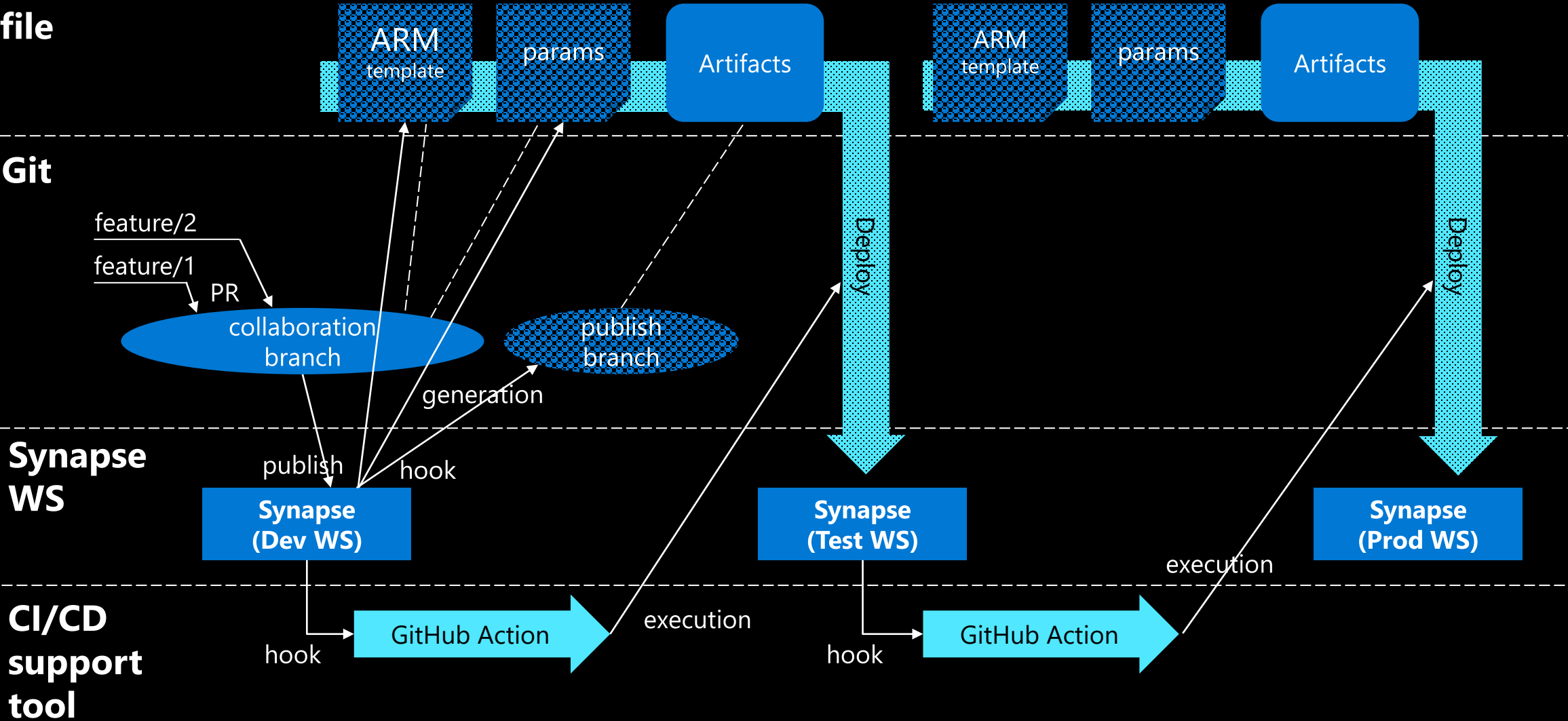
CI/CD flow (example)



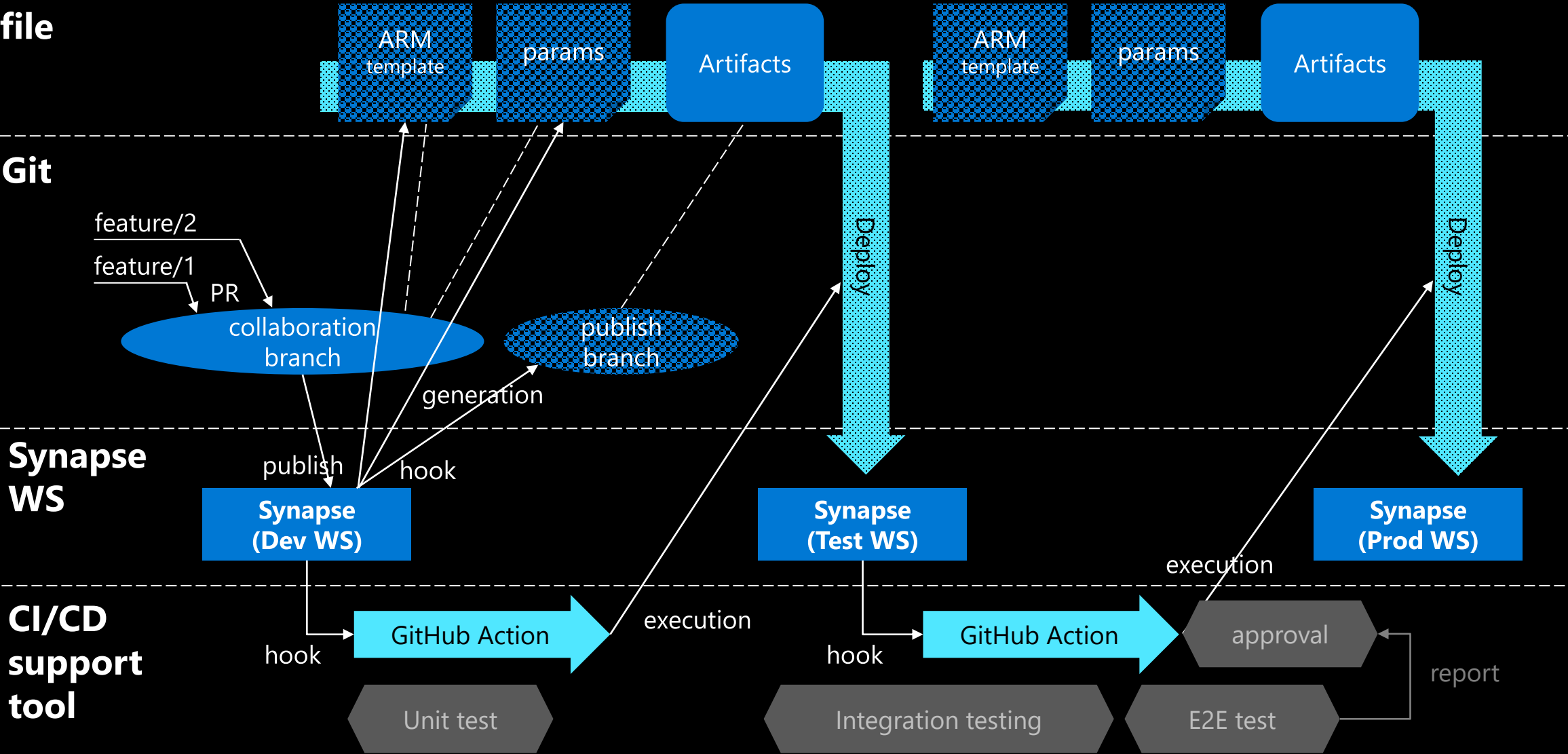
CI/CD flow (example)



CI/CD flow (example)



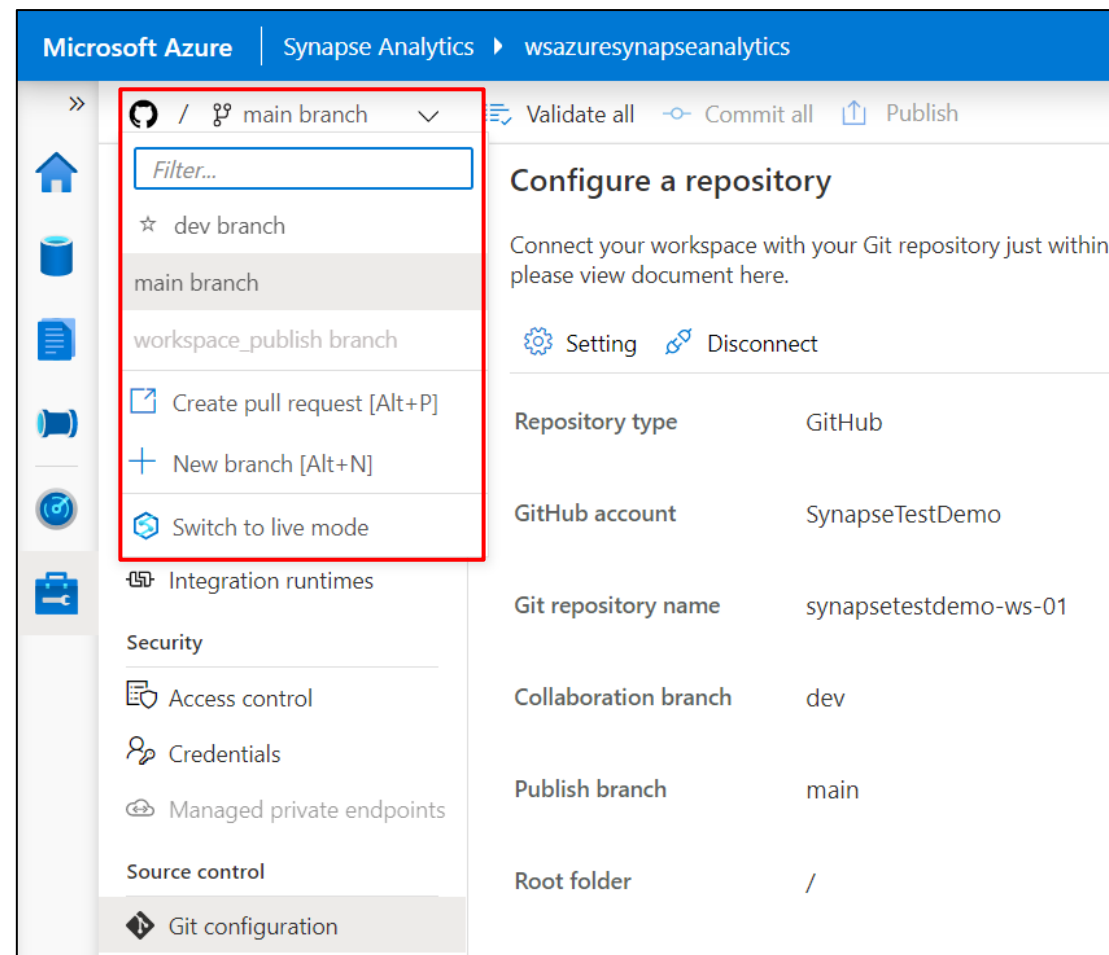
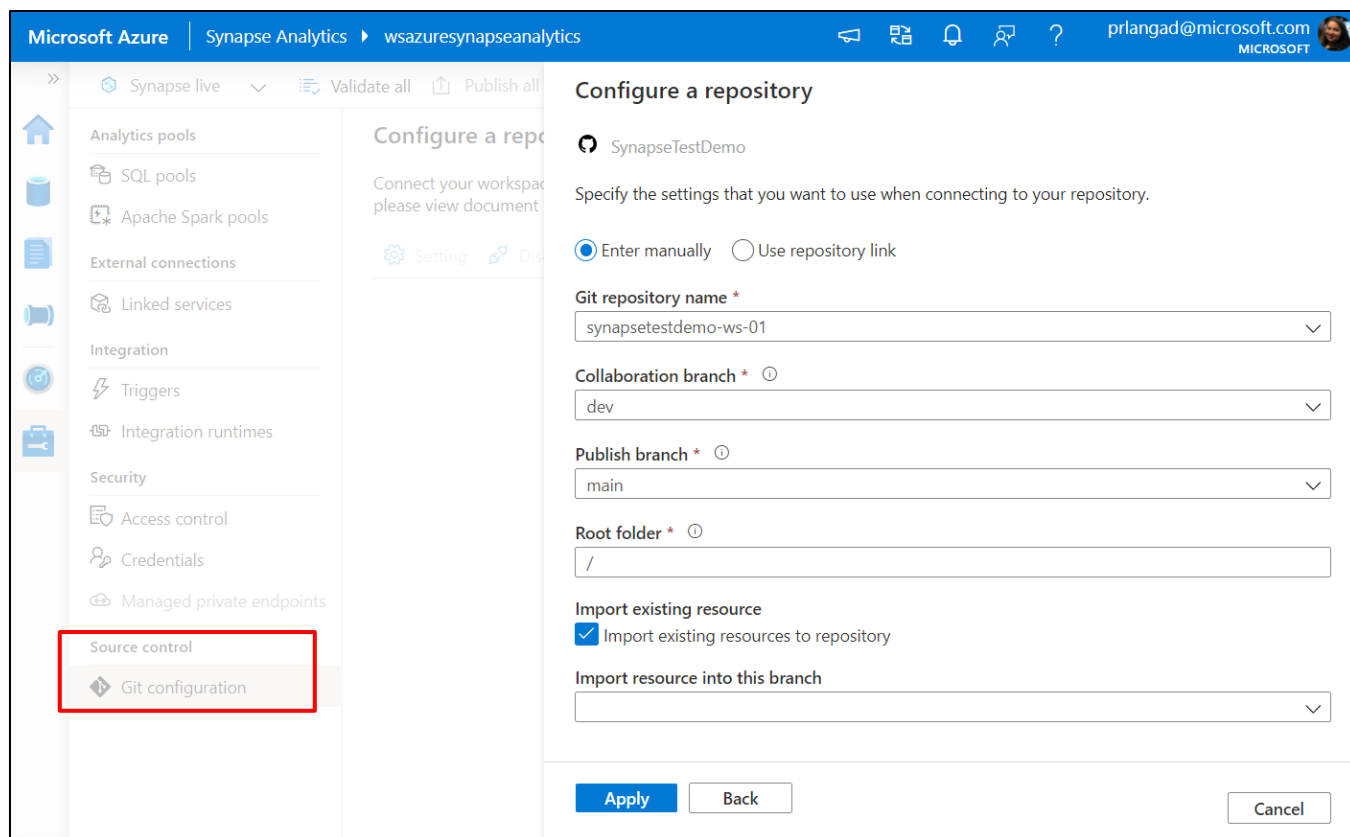
CI/CD flow (example)



Manage – Source Control

Overview

Associate Synapse workspace with a Git repository, Azure DevOps, or GitHub



End-to-end, code-to-cloud DevOps

Automating workflows from code to any cloud



Home for all developers
Home for the world's code

- Elastic, to any scale
- Fully managed
- Always the latest packages
- Supports all OS for CI/CD
- Largest ecosystem
- Community-led automation



Deploy anywhere, including
your own data centers

- On-prem
- Azure
- AWS
- Google Cloud Platform

demo

[jminterprisedemo/SynapseOpsDemo: DataOps
demo \(github.com\)](https://github.com/jminterprisedemo/SynapseOpsDemo)

Synapse & ADF integration

How to work with Git

Automated publishing

Advanced features with Issue templates

Bicep

Useful links

5 parts detailed guide - <https://techcommunity.microsoft.com/t5/data-architecture-blog/ci-cd-in-azure-synapse-analytics-part-5-deploying-azure-synapse/ba-p/2775403>

CI-CD-ADF (shows what changed) - <https://docs.microsoft.com/en-us/azure/data-factory/continuous-integration-delivery-improvements>

ADF Source control - <https://docs.microsoft.com/en-us/azure/data-factory/source-control>

Pre-Post deployment scripts ADF sample - <https://docs.microsoft.com/en-us/azure/data-factory/continuous-integration-delivery-sample-script>

CI improved pipeline ADF - <https://docs.microsoft.com/en-us/azure/data-factory/continuous-integration-delivery-improvements#create-an-azure-pipeline>

For global params - <https://docs.microsoft.com/en-us/azure/data-factory/author-global-parameters#cicd> or <https://azureops.org/articles/automated-azure-data-factory-publish/>

Global Parameters in ADF - <https://docs.microsoft.com/en-us/azure/data-factory/author-global-parameters>

CI-CD-Synapse - <https://docs.microsoft.com/en-us/azure/synapse-analytics/cicd/continuous-integration-delivery>

CI-CD-Synapse Serverless Pool [Azure Synapse Serverless SQL Pool - CI/CD - Microsoft Q&A](#)

White Paper - <https://azure.microsoft.com/mediahandler/files/resourcefiles/whitepaper-adf-on-azuredevops/Azure%20data%20Factory-Whitepaper-DevOps.pdf>

ADF Permissions - <https://docs.microsoft.com/en-us/azure/data-factory/concepts-roles-permissions>

Synapse Permissions - <https://docs.microsoft.com/en-us/azure/synapse-analytics/security/how-to-set-up-access-control#step-3-create-and-configure-your-azure-synapse-workspace>

ADF ARM / BICEP - <https://docs.microsoft.com/en-us/azure/templates/microsoft.datafactory/factories/linkedservices?tabs=bicep>

Synapse ARM / BICEP - <https://docs.microsoft.com/en-us/azure/templates/microsoft.synapse/workspaces?tabs=bicep>